

CLAIMS

What is claimed is:

1. A front panel assembly mounted on a body of a disk drive for reading and writing information by accessing a disk, comprising:

a front panel having an entrance through which a tray for accommodating the disk extends and retracts;

a door that is rotationally assembled with the front panel to open and close the entrance in connection with extension and retraction of the tray;

an elastic member that provides an elastic force to the door in the direction of closing the entrance; and

a door locking apparatus that selectively allows and prevents the rotation of the door in connection with the extension and retraction of the tray.

2. The front panel assembly according to claim 1, wherein the door locking apparatus comprises:

a hook member provided on a first side of the door; and

a locking lever mounted on the front panel, which includes

an elastically deformable locking member that engages the hook member to prevent the door from opening while the tray is in a retracted state, and

a contact member that when contacted by the tray during extension and retraction of the tray, causes the locking member to elastically deform so that the locking member is released from the hook member.

3. The front panel assembly according to claim 2, wherein the door locking apparatus is provided at opposite sides of the entrance.

4. A disk drive having a body, including a spindle motor for rotating a disk, a pickup unit for accessing the disk, and a tray for accommodating the disk, which is retracted in or extended from the body, and a front panel assembly mounted on the body, which allows the tray to retract and extend, wherein the front panel assembly comprises:

a front panel having an entrance through which the tray extends and retracts;

a door that is rotationally assembled with the front panel to open and close the entrance in connection with extension and retraction of the tray;

an elastic member that provides an elastic force to the door in the direction of closing the entrance; and

a door locking apparatus that selectively allows and prevents the rotation of the door in connection with the extension and retraction of the tray.

5. The disk drive according to claim 4, wherein the door locking apparatus comprises:

a hook member provided on a first side of the door; and

a locking lever mounted on the front panel, which includes

an elastically deformable locking member that engages the hook member to prevent the door from opening while the tray is in a retracted state, and

a contact member that, when contacted by the tray during extension and retraction of the tray, causes the locking member to elastically deform so that the locking member is released from the hook member.

6. The disk drive according to claim 5, wherein the door locking apparatus is provided at opposite sides of the entrance.

7. A front panel assembly of a disk drive including a body, and a tray that retracts into and extends from the body and accommodates a disk, the front panel assembly comprising:

a front panel that is combined with the body, and has an entrance through which the tray extends and retracts;

a door combined with the front panel to open and close the entrance in connection with extension and retraction of the tray;

an elastic member that biases the door in a closing direction; and

a door locking apparatus that selectively allows and prevents the opening of the door in connection with extension and retraction of the tray.

8. The front panel assembly according to claim 7, wherein the door locking apparatus comprises:

a hook member provided on a first side of the door; and

a locking lever provided on the front panel that engages the hook member when the tray is retracted, and elastically deforms and disengages from the hook member when contacted by the tray as the tray extends.

9. The front panel assembly according to claim 8, wherein the locking lever comprises:

an elastic member that engages the hook member; and
a contact member,

wherein when the tray extends, the tray contacts the contact member and elastically deforms the elastic member to disengage the elastic member from the hook member.

10. The front panel assembly according to claim 9, wherein the elastic member comprises:

a projection member that engages the hook member.

11. The front panel assembly according to claim 10, wherein the locking lever further comprises:

a joint member, to combine the locking lever to the front panel,

wherein the joint member, the projection member, the contact member, and the elastic member are integrally formed.

12. The front panel assembly according to claim 11, wherein:

the joint member, the projection member, the contact member, and the elastic member are made of a single piece of elastic material.

13. The front panel assembly according to claim 12, wherein:

the elastic material is spring metal.

14. The front panel assembly according to claim 7, wherein:

a plurality of the door locking apparatuses are provided on the front panel.

15. The front panel assembly according to claim 7, the door comprises:

a limit member that engages the front panel when the door is closed and prevents the door from moving further in the closing direction.

16. The front panel assembly according to claim 7, wherein the door locking apparatus comprises:

a hook member provided on the front panel; and

a locking lever provided on a first side of the door that engages the hook member when the tray is retracted, and elastically deforms and disengages from the hook member when contacted by the tray as the tray extends.